

**WHAT IS CLAIMED IS:**

1. An apparatus for reversing flow of gas within a unilimb breathing circuit, said apparatus comprising:

5 a reverse flow adapter, said reverse flow adapter adapted to be coupled to the unilimb breathing circuit for permitting inspiratory gas to travel within an outer tube of the unilimb breathing circuit, and for permitting patient expired gases to travel through an inner tube of  
10 the unilimb breathing circuit for exiting through an aperture formed in said reverse flow adapter.

2. An apparatus for humidification of inspired gases, said apparatus comprising:

15 a breathing circuit;  
a reverse flow adapter; and,  
a flow diluter.

3. An apparatus for selectively coupling a reverse flow  
20 adapter to a nasal cannula assembly and a simple facemask assembly, said apparatus comprising:

an intermediate adapter dimensioned to engage the reverse flow adapter, said intermediate adapter comprising

a nipple, said nipple comprising a passageway formed therethrough for the exit of inspiratory gases therefrom, wherein said nipple is dimensioned to be received by a connector formed on the nasal cannula assembly or the  
5 simple facemask assembly.

4. A method of reversing flow of gas through a unilimb breathing circuit, said method comprising the steps of:

a. coupling a reverse flow adapter to an outer  
10 expiratory tube of the unilimb breathing circuit;

b. directing a stream of gas through the outer expiratory tube via said reverse flow adapter; and,

c. permitting patient expired gases to travel through an inner inspiratory tube of the unilimb breathing circuit  
15 for exiting through an aperture formed in said reverse flow adapter.